AMENDMENTS TO THE CLAIMS

Claim 1 (original): A crystal pulling apparatus for producing a silicon single crystal grown by the Czochralski process, the apparatus comprising:

a growth chamber; and

a structural component disposed within the growth chamber, the structural component comprising a substrate and a protective layer covering the surface of the substrate that is exposed to the atmosphere of the growth chamber, the substrate comprising graphite and having a concentration of iron no greater than about $1.5*10^{12}$ atoms/cm^3, the protective layer comprising silicon carbide and having a concentration of iron no greater than about $1.0*10^{12}$ atoms/cm^3.

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Claim 2 (original): The crystal pulling apparatus as set forth in claim 1 wherein the concentration of iron in the substrate is no greater than about $1.0*10^{12}$ atoms/cm^3.

Claim 3 (original): The crystal pulling apparatus as set forth in claim 1 wherein the concentration of iron in the substrate is no greater than about $0.5*10^{12}$ atoms/cm^3.

Claim 4 (original): The crystal pulling apparatus as set forth in claim 1 wherein the concentration of iron in the substrate is no greater than about $0.1*10^{12}$ atoms/cm.

Claim 5 (original): The crystal pulling apparatus as set forth in claim 1 wherein the concentration of iron in the protective layer is no greater than about $0.5*10^{12}$ atoms/cm^3.

Claim 6 (original): The crystal pulling apparatus as set forth in claim 1 wherein the concentration of iron in the protective layer is no greater than about $0.1*10^{12}$ atoms/cm^3 of iron.

Claim 7 (original): The crystal pulling apparatus as set forth in claim 1 wherein the protective layer is about 75 to about 125 μm thick.

Claim 8 (original): The crystal pulling apparatus as set forth in claim 1 wherein the protective layer is about 100 μm thick.

Claim 9 (original): The crystal pulling apparatus as set forth in claim 1 wherein the protective layer covers the entire surface of the substrate.

Claim 10 (currently amended): The crystal pulling apparatus as set forth in claim 1 wherein the structural component is adapted to reach a temperature of ~~reaches~~ at least about 950°C for a duration of at least about 80 hours and to be ~~is~~ within about 3 cm to about 5 cm of the silicon single crystal or a silicon melt during the growth of the silicon single crystal.

Claim 11 (original): The crystal pulling apparatus as set forth in claim 10 wherein the structural component is selected from the group consisting essentially of an upper heater, an upper heater shield, an intermediate heat shield, a lower heat shield inner reflector, a lower heat shield outer reflector, a lower heat shield insulation layer, an upper insulation support and an upper insulation shield.

Claim 12 (original): The crystal pulling apparatus as set forth in claim 11 comprising at least six structural components selected from the group.

Claim 13 (original): The crystal pulling apparatus as set forth in claim 11 comprising at least eight structural components selected from the group.

Claim 14 (currently amended): ~~The crystal pulling apparatus as set forth in claim 1 wherein all the structural components which during the growth of the crystal reach at least about 950 C for at least 80 hours and are within about 3 cm to about 5 cm of the crystal or a silicon melt comprise the substrate and the protective layer.~~ A crystal pulling apparatus for producing a silicon single crystal grown by the Czochralski process, the apparatus comprising:

a growth chamber; and

a plurality of structural components disposed within the growth chamber that are adapted to reach a temperature of at least about 950°C for a duration of at least 80 hours and to be within about 3 cm to about 5 cm of the silicon single crystal or a silicon melt during the growth of the silicon single crystal, each structural component comprising a substrate and a protective layer covering the surface of the substrate that is exposed to the atmosphere of the growth chamber, the substrate comprising graphite and having a concentration of iron no greater than about $1.5*10^{12}$ atoms/cm^3, the protective layer comprising silicon carbide and having a concentration of iron no greater than about $1.0*10^{12}$ atoms/cm^3.

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Claims 15-33 (withdrawn)